Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An optical signal processor comprising:

a first input terminal for a pulse signal light with a signal wavelength;

a second input terminal for a probe light with a ~~probe~~ wavelength different from the pulse signal wavelength;

a first splitter to split the probe light into ~~two portions~~ a first probe light portion and a second probe light portion;

an XPM optical device, to which ~~one portion of the split output lights~~ the first probe light portion from the first splitter and the pulse signal light enter, to modulate the ~~one portion of the split output lights~~ first probe light portion from the first splitter according to amplitude variation of the pulse signal light and generate a phase-modulated output light;

a second splitter to split the ~~light with the probe wavelength~~ phase-modulated output light ~~by~~ from the XPM optical device into ~~two portions~~ a first phase-modulated portion and a second phase-modulated portion;

a first combiner to combine the ~~other portion of the spilt output lights~~ second probe light portion from the first splitter with the ~~one portion of the split output lights~~ first phase-modulated portion from the second splitter in in-phase relation

during a period corresponding to a non-pulse period of the pulse signal light; and

a second combiner to combine the ~~other portion of the split output lights~~ second phase-modulated portion from the second splitter with ~~the~~ an output light from the first combiner in in-phase relation during a period corresponding to a pulse period of the pulse signal light.

2. (Original) The optical signal processor of claim 1 wherein the probe light comprises a continuous wave light.

3. (Currently Amended) An optical signal processing method comprising steps of:

inputting a pulse signal light with a signal wavelength;

inputting a probe light with a ~~probe~~ wavelength different from the pulse signal wavelength;

splitting the probe light into two portions to generate a first and a second probe light components;

modulating optical phase of the first probe light component using an XPM device according to amplitude variation of the pulse signal light;

splitting ~~the~~ a phase-modulated first probe light component output of the XPM device into two portions to generate a first and a second ~~PM~~ phase-modulated lights;

combining the first ~~PM~~ phase-modulated light with the second probe light component at ~~practically~~ approximately equivalent amplitude in in-phase relation during a period corresponding to a non-pulse period of the pulse signal light; and

combining the second ~~PM~~ phase-modulated light with the combined lights of the first ~~PM~~ phase-modulated light and the second probe light component in in-phase relation during a period corresponding to a pulse period of the pulse signal light.

4. (Original) The method of claim 3 wherein the probe light comprises a continuous wave light.

5. (New) The optical signal processor of claim 1 further comprising a first attenuator disposed between the first splitter and the first combiner for attenuating the second probe light portion from the first splitter.

6. (New) The optical signal processor of claim 1 further comprising a phase adjuster disposed between the first splitter and the first combiner for adjusting a phase of the second probe light portion from the first splitter.

7. (New) The optical signal processor of claim 1 further comprising bandpass filter disposed between the XPM optical device and the first combiner for filtering the output from the XPM optical device.

8. (New) The optical signal processor of claim 1 further comprising a second attenuator disposed between the first combiner and the second combiner for attenuating the output from the first combiner.

9. (New) An optical switch comprising:

a first input terminal for inputting a pulse signal light with a signal wavelength;

a second input terminal for inputting a probe light with a wavelength different from the signal wavelength;

a first splitter for splitting the probe light into a first probe light portion and a second probe light portion;

an XPM optical device for modulating the first probe light portion from the first splitter according to amplitude variation of the pulse signal light;

a second splitter for splitting an output of the XPM optical device into a first phase-modulated portion and a second phase-modulated portion;

a first combiner for combining the second probe light portion with the first phase-modulated portion in in-phase relation during a period corresponding to a non-pulse period of the pulse signal light; and

a second combiner for combining the second phase-modulated portion with an output light from the first combiner in in-phase relation during a period corresponding to a pulse period of the pulse signal light.

10. (New) The optical switch of claim 9 further comprising a first attenuator disposed between the first splitter and the first combiner for attenuating the second probe light portion from the first splitter.

11. (New) The optical switch of claim 9 further comprising a phase adjuster disposed between the first splitter and the

first combiner for adjusting a phase of the second probe light portion from the first splitter.

12. (New) The optical switch of claim 9 further comprising bandpass filter disposed between the XPM optical device and the first combiner for filtering an output from the XPM optical device.

13. (New) The optical switch of claim 9 further comprising a second attenuator disposed between the first combiner and the second combiner for attenuating the output from the first combiner.